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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/336,245 06/18/99 HERR

D 1734

EXAMINER

IM22/0405

NATIONAL STARCH AND CHEMICAL COMPANY  
P O BOX 6500  
BRIDGEWATER NJ 08807-0500

ZALIKAEVA, T

ART UNIT

PAPER NUMBER

1713

DATE MAILED:

9

04/05/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Notice of Allowability

Application No.

09/336,245

Examiner

Tanya Zalukaeva

Applicant(s)

HERR ET AL.

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 01/11/2001.
2. ☒ The allowed claim(s) is/are 1, 4-7 and 37.
3. ☐ The drawings filed on \_\_\_\_\_ are acceptable as formal drawings.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE FOR SUBMITTING NEW FORMAL DRAWINGS, OR A SUBSTITUTE OATH OR DECLARATION.** This three-month period for complying with the REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL is extendable under 37 CFR 1.136(a).

6. ☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
7. ☐ Applicant MUST submit NEW FORMAL DRAWINGS
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the examiner.
  - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

8. ☐ Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE / SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

## Attachment(s)

- |  |  |
|--|--|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892)  | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                    | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____    |
| 5 <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. <u>7</u> | 6 <input type="checkbox"/> Examiner's Amendment/Comment                    |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9 <input type="checkbox"/> Other   |

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**EXAMINER'S AMENDMENT/COMMENT/REASONS FOR ALLOWANCE**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Gennaro, esq., on March 30, 2001.

-Cancel claims 8-36

-In claim 1, page 2 of Paper No.6, line 3 after the words "A curable adhesive composition for" delete the words "use in"

-In claim 1, page 3 of Paper No.6, line 7, after the word "and", which is the first word of page 3, delete the clause "(c) Q is a urethane having the structure" and insert the following: ---Q is selected from the group consisting of (c), which is a urethane having the structure-----

-In claim 1, page 3 of Paper No.6, line 13 replace the clause "(d) Q is an ester having the structure" by the clause ---(d), which is an ester having the structure---

-In claim 1, page 3 of Paper No.6, line 17 replace the clause "(e) Q is an ester having the structure" by the clause ---(e), which is an ester having the structure---

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By  
-In claim 1, page 4 of Paper No.6, line 8, replace the clause "(f) Q is an ester having the structure" by the clause ---(f), which is an ester having the structure---

-In claim 37, page 52 of the Specification, line 16, replace the clause "any one of the preceding claims" by the clause ---claim 1---

### EXAMINER'S COMMENT

2. The information disclosure statement filed on December 15, 200 complies with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. It has been fully considered and placed in the application file
3. Applicants' amendment has overcome rejections under 35 USC 112§2, and the rejections are therefore withdrawn.

### ALLOWABLE CLAIMS

4. Claims 1, 4-7 and 37 are allowed over the prior art of record.

### REASONS FOR ALLOWANCE

5. The following is an examiner's statement of reasons for allowance:  
Claims 1, 4-7 and 37 are allowed mainly due to a significant amendment to an independent claim 1 specifying the exact structures of Q, which is a part of a maleimide containing curable composition.
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The closest prior art of record are U.S. Patent 4, 370,467 to Gaku and U.S. Patent 4, 886,842 to Drain.

Drain discloses curable adhesive compositions comprising a compound with a plurality of epoxy groups, a compound having a polyoxyalkylene amine, one of maleimide compounds presented in the abstract, and a photocurable ethylenically unsaturated compound and photoinitiator. The epoxy component can be a monomer, oligomer or a polymeric compound, wherein the diglycidyl ether of a bisphenol is preferred. The amine component is limited to polyoxyalkylene amines having two or more aliphatic amino groups.

Gaku discloses a curable resin composition from a polyfunctional aromatic ester and maleimide composition comprising (I) a catalytic composite comprising peroxide and (II) a mixture of a reaction product of (a) a polyfunctional cyanate ester or a prepolymer of a cyanate ester and an amine and a polyfunctional maleimide, prepolymer of maleimide, or prepolymer of maleimide and optionally (c) other compounds (see abstract). the composition cures rapidly and is excellent in respect to adhering properties, heat-, moisture- and chemical resistance.

Although the generic teaching of curable compositions, having maleimide moieties present in both Gaku and Drain neither of the references anticipate or suggest fairly that the maleimide is connected to urethane group, or to ester groups, as shown by amended claim 1. Upon further search no other prior art that anticipates or suggests fairly the instant claims has been located as of the date of this Office Action. Therefore, claims 1, 4-7 and 37 are allowed over the prior art.

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6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanya Zalukaeva whose telephone number is (703) 308-8819. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3599 for regular communications and (703)305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

Tanya Zalukaeva  
Examiner  
Art Unit 1713

TZ  
April 4, 2001

  
DAVID W. WU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

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UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

NOTICE OF ALLOWANCE AND ISSUE FEE DUE

IM22/0405  
NATIONAL STARCH AND CHEMICAL COMPANY  
P O BOX 6500  
BRIDGEWATER NJ 08807-0500

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APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
09/336,245	06/18/99	006	ZALUKAEVA, T	1713 04/05/01
First Named Applicant	HERR, 35 USC 154(b) term ext. = 0 Days.			

TITLE OF INVENTION DIE ATTACH ADHESIVES FOR USE IN MICROELECTRONIC DEVICES

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
1 1734	528-322.000	E57	UTILITY	NO	\$1240.00	07/05/01

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.**

**THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.**

**HOW TO RESPOND TO THIS NOTICE:**

**I. Review the SMALL ENTITY status shown above.**

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- B. If the status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

**II. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.**

**III. All communications regarding this application must give application number and batch number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.**

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

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